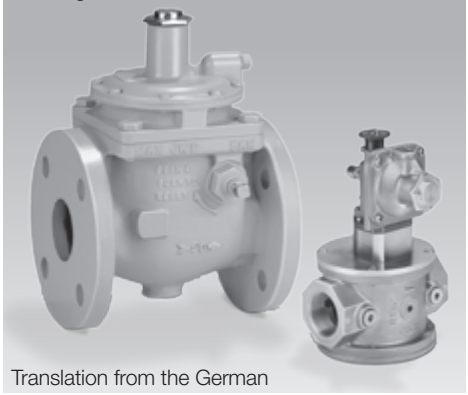
2.1.2 Edition 04.10

Operating instructions
Safety shut-off valve JSAV



Translation from the German

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Safety

Please read and keep in a safe place

Please read through these instructions carefully before installing or operating. Following the installation, pass the instructions on to the operator. These instructions can also be found at www.docuthek.com.

Explanation of symbols

•, **1**, **2**, **3**... = Action
▷ = Instruction

Liability

We will not be held liable for damages resulting from non-observance of the instructions and non-compliant use.

Safety instructions

Information that is relevant for safety is indicated in the instructions as follows:

⚠ DANGER
Indicates potentially fatal situations.

⚠ WARNING
Indicates possible danger to life and limb.

! CAUTION
Indicates possible material damage.

All interventions may only be carried out by qualified gas technicians. Electrical interventions may only be carried out by qualified electricians.

Conversion, spare parts

All technical changes are prohibited. Only use OEM spare parts.

Transport

On receipt of the product, check that the delivery is complete (see Part designations). Report any transport damage immediately.

Storage

Store the product in a dry place. Ambient temperature: see Technical data.

Checking the usage

JSAV

Safety shut-off valve for securing downstream fittings against excess gas pressure.

This function is only guaranteed when used within the specified limits – see [Technical data – p. 9].

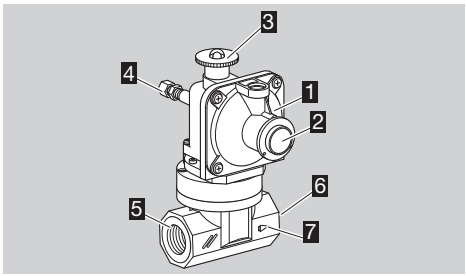
Any other use is considered as non-compliant.

Type code

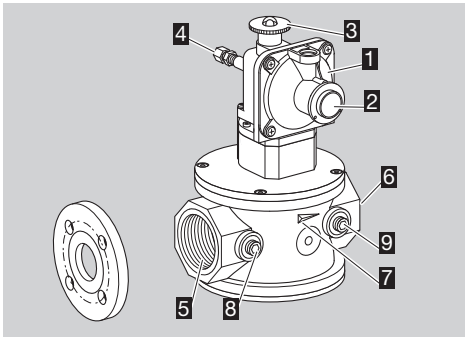
Code	Description
JSAV	Safety shut-off valve
25–100	Nominal size
R	Rp internal thread to ISO 7-1
N	NPT internal thread
F	Flange to ISO 7005
A	ANSI flange
40	Inlet pressure $p_{e\,max.}$ = 4 bar (58 psig)
0	Without pressure test point
3	Screw plug at the inlet and outlet

Part designations

JSAV 25

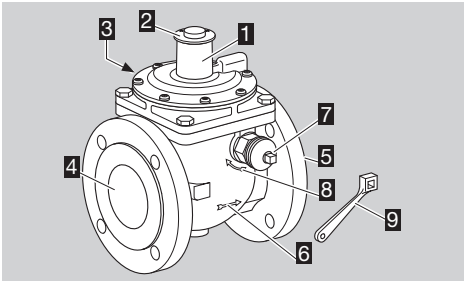


JSAV 40



1 Measuring unit
2 Breather screw plug
3 Reset cap
4 Impulse line connection
5 Inlet
6 Outlet
7 Arrow of direction of flow
8 Inlet p_e measuring connection
9 Outlet p_a measuring connection

JSAV 50–100

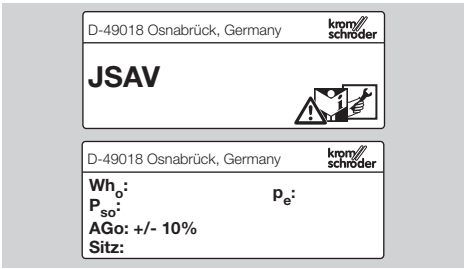


1 Measuring unit
2 Breather screw plug
3 Impulse line connection
4 Inlet
5 Outlet
6 Arrow of direction of flow
7 Reset
8 Arrow of direction of reset
9 Reset lever

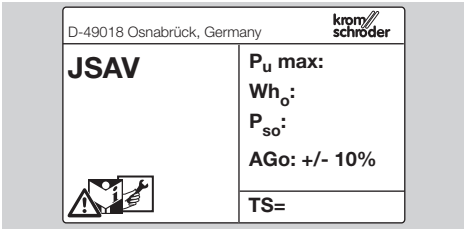
Type label

Max. inlet pressure, switching pressure p_{so}, ambient temperature: see type label.

JSAV 25–40



JSAV 50–100

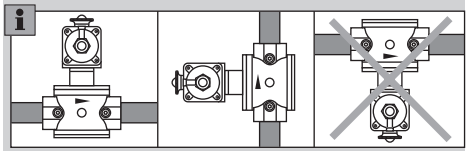


Installation

! CAUTION

Please observe the following to ensure that the JSAV is not damaged during installation:

- Sealing material, cuttings and other impurities must not be allowed to get into the housing.
- We recommend installing a filter upstream of the JSAV, in order to protect it against impurities in the pipe.
- The installation location must be dry. Do not store or install the JSAV in the open air.
- Install the JSAV in the pipe free of mechanical stress.
- Do not clamp the unit in a vice or use it as a lever. On the JSAV..R, only secure the valve by holding the octagon at the inlet or outlet with a suitable spanner. Risk of external leakage.
- Max. inlet pressure $p_{e\ max.}$ 4 bar (58 psig).
- Installation in the vertical or horizontal position, never upside down.

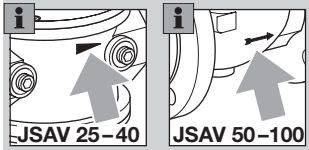


1 The housing must not be in contact with masonry. Minimum clearance 20 mm (0.78"). Ensure that there is sufficient space for installation and adjustment.

2 JSAV..R: seal pipe with approved sealing material. JSAV..F: insert seal between pipe and unit.

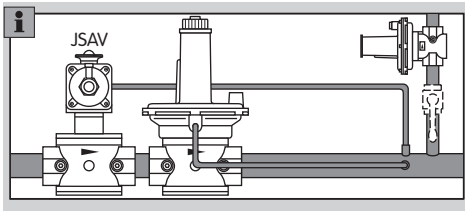
3 Remove screw caps or adhesive foil from the inlet and outlet on the JSAV.

▷ Note direction of flow.



▷ We recommend installing a manual valve AKT 25 in the pipe leading to the safety relief valve VSBV 25, so that the annual function check of the safety shut-off valve JSAV can be carried out without having to remove it.

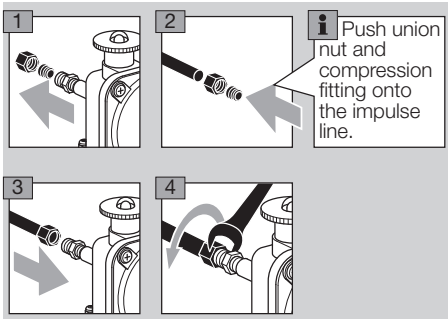
▷ To prevent the VSBV from being unintentionally shut off, we recommend removing the manual valve lever after commissioning and attaching it to the pipe.



Connecting the impulse line

JSAV 25–40

▷ The connection flange is suitable for an impulse line with a pipe diameter of 8 mm.



▷ On the JSAV..T, remove the blind plug and connect an NPT $^{1}/_{8}$ impulse line.

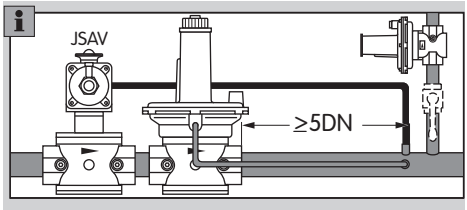
JSAV 50–100

▷ Remove the blind plug and connect an Rp ¼ (NPT ¼) impulse line.

JSAV

5 Install the impulse line and seal with an approved sealing material.

▷ Ensure that there is sufficient tube length for the impulse line.



Tightness test

⚠ WARNING

– An additional tightness test must be carried out on the JSAV at all joints which have been opened for maintenance work or replacement of spare parts.

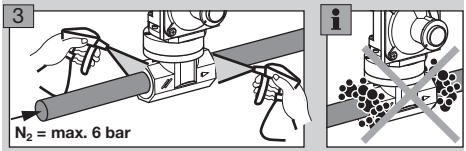
▷ Ensure that the valve seat of the JSAV is open, see [Resetting – p. 5].

1 Block the pipeline at the inlet and outlet.

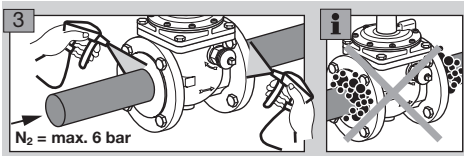
▷ Note max. test pressure.
JSAV inlet and outlet: max. 6 bar (87 psig), impulse line: max. 750 mbar (10.9 psig).

2 Slowly apply test pressure.

JSAV 25–40



JSAV 50–100



Checking the function

Checking the switching pressure p_{so}

The JSAV is checked for the required switching pressure p_{so}.

1 Vent the system.

▷ Ensure that the valve seat of the JSAV is open, see [Resetting – p. 5].

▷ Ensure that the breather screw plug is screwed in.

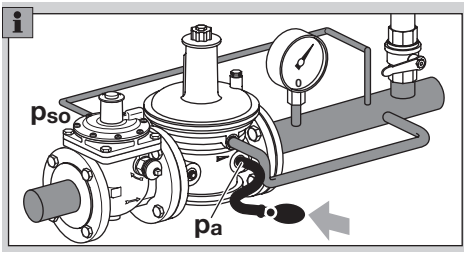
2 Close all manual valves at the inlet and outlet, and in the relief line.

! CAUTION

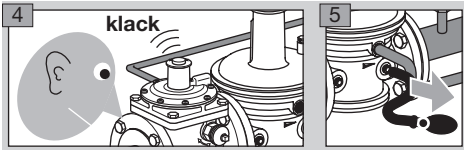
Please observe the following to ensure that the regulator is not damaged during the function check:

– Do not exceed the maximum outlet pressure p_a of the regulator.

3 Increase the outlet pressure p_a on the regulator until the required switching pressure p_{so} is reached.



▷ The JSAV closes at the set switching pressure p_{so}.



▷ The JSAV has closed successfully: to restart the system, the JSAV must be opened again, see [Resetting – p. 5].

▷ The JSAV does not close at the required switching pressure p_{so} and must be readjusted, see [Setting the switching pressure pso – p. 5].

Checking the tightness of the valve disc

▷ Ensure that the outlet is closed.

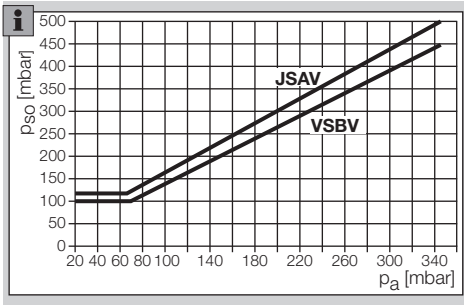
1 Vent the system.

2 Slowly open the manual valve at the inlet.

3 The outlet pressure p_a must not rise.

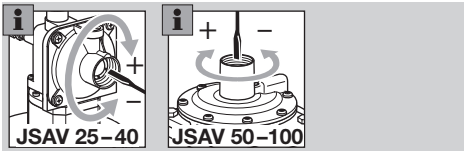
Setting the switching pressure p_{so}

1 Select the switching pressure p_{so} according to the outlet pressure p_a of the pressure regulator.



2 Remove the breather screw plug.

3 Set the switching pressure p_{so}.



4 Reset the JSAV, see [Resetting – p. 5].

5 Check the required switching pressure p_{so} again, see [Checking the function – p. 4].

Replacing the spring

▷ Various switching pressure ranges can be reached by using different springs on the JSAV.

1 Choose a spring according to the required switching pressure range.

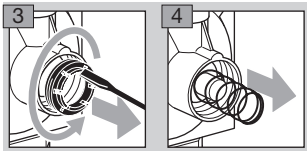
Spring table

Type	Switching pressure p_{so} [mbar]	[psig]	Marking	Order No.
JSAV 25 – 40	18–60	0.26–0.9	black	0 308 906 8
	50–80	0.73–1.16	orange	0 308 906 9
	60–110	0.9–1.6	red	0 308 907 0
	100–210*	1.45–3.05*	dark green	0 308 907 1
	200–350	2.9–5.08	yellow	0 308 907 2
	280–500	4.06–7.25	white	0 308 907 3
JSAV 50 – 100	35–70	0.51–1.02	light blue	0 308 906 3
	60–170*	0.9–2.5	reddish brown	0 308 906 4
	120–220	1.74–3.2	crimson	0 308 906 5
	190–400	2.8–5.8	orange/ yellow	0 308 906 6
	300–550	4.35–8	orange/ green	0 308 906 7

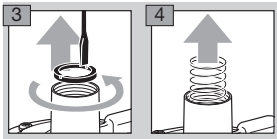
* Standard spring

2 Remove the breather screw plug.

JSAV 25–40



JSAV 50–100



5 Insert new spring.

6 Follow the reverse procedure when reassembling.

7 Set the required switching pressure p_{so}, see [Setting the switching pressure pso – p. 5].

8 Screw in the breather screw plug.

9 After inserting the spring, take the spring's label from the packaging and stick it below the type label on the JSAV.

10 Clearly mark the adjusted value of the switching pressure p_{so} on the sticker.

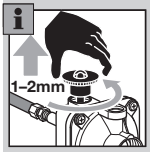
Resetting

▷ Ensure that the impulse line is depressurized.

JSAV 25–40

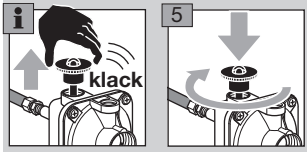
1 Remove the breather screw plug.

2 Open the reset cap and pull it approx. 1 to 2 mm (0.04 to 0.08") upwards. Pressure equalization now takes place.



3 Hold the reset cap in this position until the cap can be pulled further upwards easily following pressure equalization.

4 Pull the reset cap upwards until the valve disc clicks into place. The JSAV is now fully open.



▷ Once the cap has been screwed on, the green pin in the reset cap must be right at the top.

6 Screw in the breather screw plug.

▷ The JSAV is ready for operation.

GB

JSAV 50–100

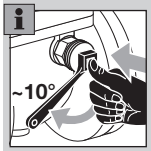
! CAUTION

Please observe the following to ensure that the JSAV is not damaged during resetting:

– Turn the reset lever gently and do not go further than specified.

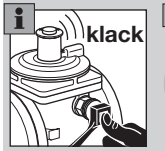
1 Remove the breather screw plug.

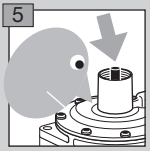
2 Press the reset lever and turn through 10° until resistance can be felt.



3 Hold the reset lever in this position until the lever can be easily turned further following pressure equalization.

4 Press and turn the reset lever until the valve disc opens and clicks into place.





▷ The pin in the measuring unit must be at the top after the valve disc has clicked into place.

6 Screw in the breather screw plug.

▷ The JSAV is ready for operation.

Replacing the measuring unit

▷ The measuring unit has to be replaced if the JSAV no longer opens or can no longer be reset.

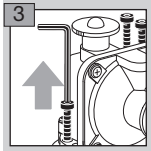
▷ We recommend cleaning the O-ring seats and lightly greasing the O-rings with Klüber Nontrop ZB91 DIN before installation.

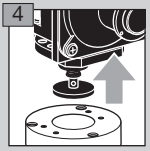
1 Depressurize the system.

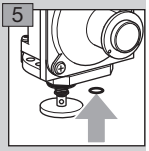
JSAV 25

▷ The measuring unit is supplied with the valve disc assembled. 1 O-ring and 4 screws are enclosed.

2 Detach the impulse line from the JSAV.







▷ Ensure that the O-ring is fitted in the new measuring unit, see Figure **5**.

6 Follow the reverse procedure when reassembling.

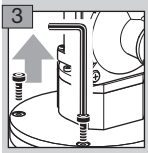
7 Connect the impulse line to the JSAV.

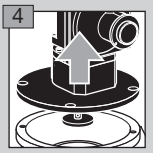
8 Check tightness and function, see [Tightness test – p. 4] and [Checking the function – p. 4].

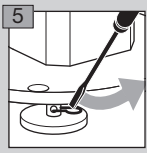
JSAV 40

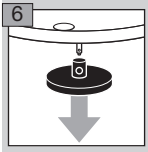
▷ The measuring unit is supplied with the valve disc assembled. 1 O-ring and 4 screws are enclosed.

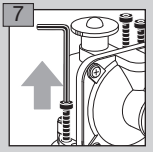
2 Detach the impulse line from the JSAV.

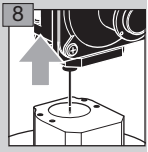


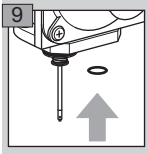








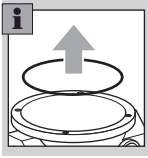




▷ Ensure that the O-ring is fitted in the new measuring unit, see Figure **9**.

10 Replace the O-ring on the housing. The O-ring is part of the seal set.

▷ The seal set is available separately as a spare part.



11 Follow the reverse procedure when reassembling.

12 Connect the impulse line to the JSAV.

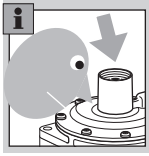
13 Check tightness and function, see [Tightness test – p. 4] and [Checking the function – p. 4].

JSAV 50–100

▷ The measuring unit is supplied with 1 O-ring and 4 screws.

2 Ensure that the JSAV is closed.

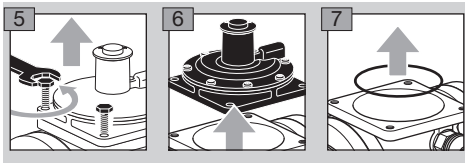
3 Remove the breather screw plug.



▷ The pin in the measuring unit must be at the bottom when the JSAV is closed.

▷ If the JSAV is open, apply pressure to the impulse line to close the valve.

4 Detach the impulse line from the JSAV.



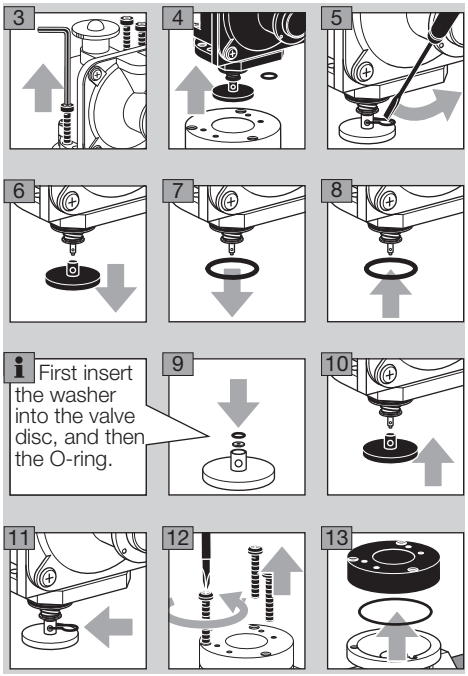
8 Install the new O-ring in the housing.
9 Follow the reverse procedure when reassembling.
10 Connect the impulse line to the JSAV.
11 Check tightness and function, see [Tightness test – p. 4] and [Checking the function – p. 4].

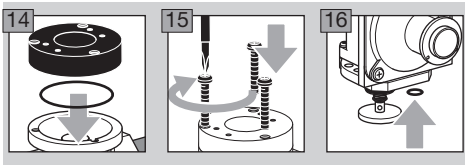
Replacing the valve disc

▷ The valve disc has to be replaced if the JSAV is leaking or the JSAV 50 – 100 has been damaged during resetting.
▷ We recommend cleaning the O-ring seats and lightly greasing the O-rings with Klüber Nontrop ZB91 DIN before installation.
1 Depressurize the system.

JSAV 25

▷ The valve disc is supplied with a complete seal set. We recommend replacing all seals.
2 Detach the impulse line from the JSAV.

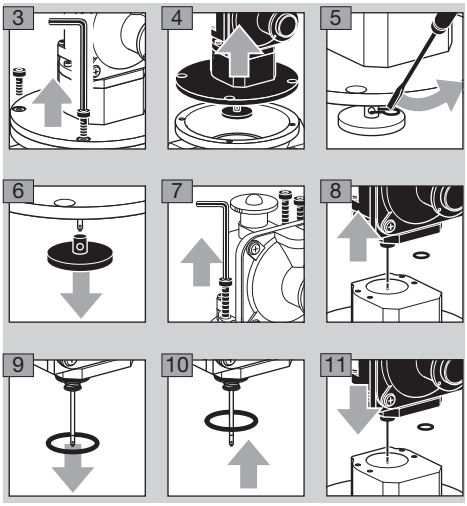




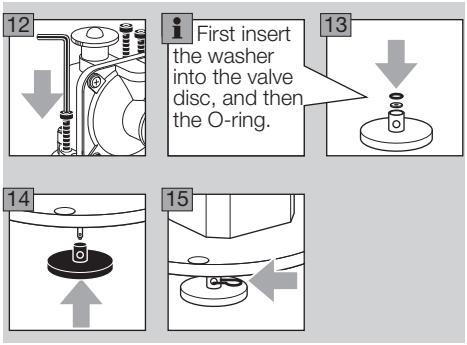
▷ Ensure that the O-ring is fitted in the new measuring unit, see Figure **16**.
17 Follow the reverse procedure when reassembling.
18 Connect the impulse line to the JSAV.
19 Check tightness and function, see [Tightness test – p. 4] and [Checking the function – p. 4].

JSAV 40

▷ The valve disc is supplied with a complete seal set. We recommend replacing all seals.
2 Detach the impulse line from the JSAV.

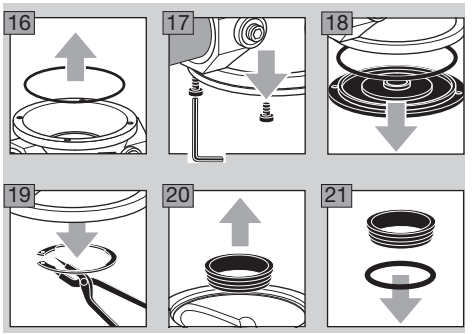


▷ Ensure that the O-ring is fitted in the new measuring unit, see Figure **11**.



GB

▷ Replace the O-rings on the housing and the valve seat.



22 Follow the reverse procedure when reassembling using the O-rings from the seal set.

23 We also recommend replacing the sealing rings on the pressure test points.

24 Connect the impulse line.

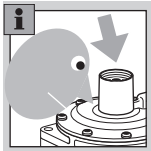
25 Check tightness and function, see [Tightness test – p. 4] and [Checking the function – p. 4].

JSAV 50–100

▷ We also recommend replacing the entire seal set and the bellows when replacing the valve disc.

▷ The seal set with bellows is available separately as a spare part.

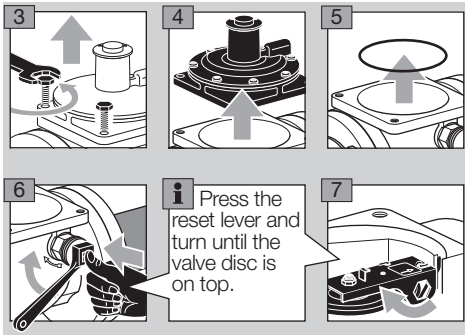
▷ Ensure that the JSAV is closed.



▷ The pin in the measuring unit must be at the bottom when the JSAV is closed.

▷ If the JSAV is open, apply pressure to the impulse line to close the valve.

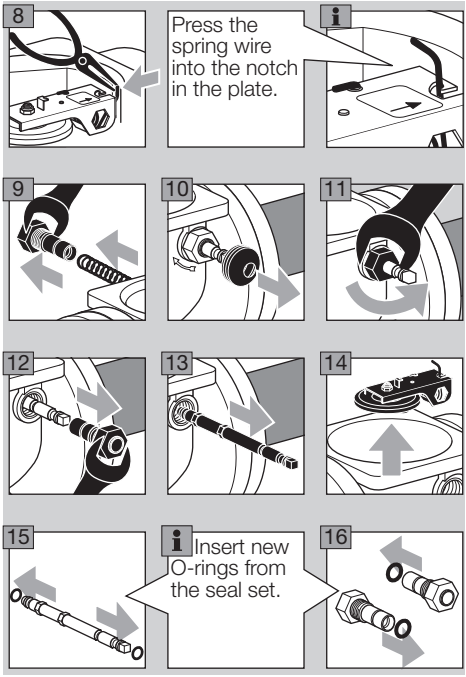
2 Detach the impulse line from the JSAV.



⚠ WARNING

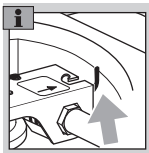
Risk of injury!

– The spring wire is under high stress.



17 Follow the reverse procedure when reassembling using the new valve disc and the O-rings from the seal set.

▷ To ensure that the valve disc is pushed onto the seat by the spring, the spring wire must be released from the notch in the plate and rest against the housing wall.



18 Connect the impulse line.

19 Check tightness and function, see [Tightness test – p. 4] and [Checking the function – p. 4].

Maintenance

In order to ensure smooth operation:
Check the function and tightness of the JSAV every year, or every six months if operated with biologically produced methane, see [Checking the function – p. 4] and [Tightness test – p. 4].

▷ In the case of malfunctioning, check the measuring unit and valve disc and replace if necessary.
Selecting spare parts:
see free PartDetective DVD:
www.kromschroeder.com → Products → CD-ROMs/DVDs → PartDetective, (D/GB).
Replacing spare parts:
see [Replacing the measuring unit – p. 6],
see [Replacing the valve disc – p. 7].

▷ After carrying out maintenance work or replacing spare parts, check for tightness and function, see [Tightness test – p. 4] and [Checking the function – p. 4].

Technical data

Gas type: natural gas, town gas, LPG (gaseous), biologically produced methane (max. 0.02 %-by-vol. H_2S) or air.
The gas must be dry in all temperature conditions and must not contain condensate.
Max. inlet presure $p_{e\ max.}$ 4 bar (58 psigg).
Max. test pressure for testing the JSAV:
temporarily < 15 min. 6 bar (87 psigg).
Max. test pressure for testing the impulse line:
temporarily < 15 min. 750 bar (10.8 psigg).
Switching pressure p_{so} set at the factory:
120 mbar (46.8 "WC).
Adjusting range for switching pressure p_{so}, see [Replacing the spring – p. 5], Spring table.
Accuracy group: AG 10.
Ambient temperature:
-15 to +60°C (5 to 140°F).
Connection for housing:
JSAV..R: Rp internal thread to ISO 7-1,
JSAV..N: NPT internal thread,
JSAV..F: flange to ISO 7005,
JSAV..A: ANSI flange.
Connection for impulse line:
JSAV 25–40: DN 8 (NPT 1/8),
JSAV 50–100: Rp ¼ (NPT ¼).
Housing:
JSAV 25–40: AlSi,
JSAV 50–100: GGG 40.
Diaphragm: NBR,
valve seat: aluminium,
valve stem: stainless steel,
valve disc:
JSAV 25–40: steel with vulcanized NBR seal.
JSAV 50–100: aluminium with vulcanized NBR seal.

Service life

The Pressure Equipment Directive (PED) and the Energy Performance of Buildings Directive (EPBD) demand regular checks on and maintenance of heating systems, in order to ensure a high level of use in the long term, a clean method of operation and safe function.
The service life on which the construction is based, hereinafter referred to simply as the “service life”, is compiled from the relevant standards. You can find further explanations in the applicable rules and regulations and on the afecor website (www.afecor.org).
This information on service life is based on using the product in accordance with these operating instructions.
The product must be serviced at regular intervals. Once the specified service life has been reached, the safety-related functions must be checked in accordance with the section entitled “Maintenance”.
If the product passes the aforementioned function tests, you can continue to use it until the next scheduled maintenance operation. At this point, these tests must be repeated.
If the product fails one of the aforementioned tests, it must be replaced immediately.
This procedure applies to heating systems. For thermoprocessing equipment, observe national regulations.
Service life (based on date of manufacture) in accordance with DIN EN 14382 Safety devices for gas pressure regulating stations and installations:

	Service life	
	Switching cycles	Time [years]
JSAV	–	15

Long-term use in the upper ambient temperature range accelerates the ageing of the elastomer materials and reduces the service life (please contact manufacturer).

Declaration of conformity

CE

We, the manufacturer, hereby declare that the products JSAV 25 – 40, marked with product ID No. CE-0085AS0202, and JSAV 50 – 100, marked with the product ID No. CE-0085AR0246, comply with the requirements of the listed Directives and Standards.

Directives:

– 90/396/EEC
– 97/23/EC

Standards JSAV 25 – 40:

– DIN 33822 (06/88)
– VP 200 (08/98)

Standards JSAV 50 – 100:

– DIN 3381 (06/84)

The relevant product corresponds to the type tested by the notified body 0085.

The production is subject to the surveillance procedure pursuant to DIN EN ISO 9001 according to annex II, paragraph 3 of Directive 90/396/EEC and annex III, module D of Directive 97/23/EC.

Elster GmbH

Scan of the Declaration of conformity (D, GB), see www.docuthek.com.

Contact

If you have any technical questions, please contact your local branch office/agent. The addresses are available on the Internet or from Elster GmbH.

We reserve the right to make technical modifications in the interests of progress.

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